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Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Complete if Known			
				Application Number 10/635,449		New Divisional Application based on USSN: 10/189,212	
				Filing Date August 7, 2003			
				First Named Inventor Richard W. Gross et al.			
				Examiner Name Ahmed Elallam (expected)			
				Attorney Docket Number 081513-336			
Sheet	1	of	5				

U.S. PATENT DOCUMENTS						
Examiner Initials ¹	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
↓ /AE/		3,573,380		Darlington	04/06/1971	
		4,131,766		Narasimha	12/26/1978	
		4,568,156		Dane	02/04/1986	
		4,679,227		Hughes-Hartogs	07/07/1987	
		4,731,816		Hughes-Hartogs	03/15/1988	
		4,802,190		Schouhamer Immink	01/31/1989	
		4,912,763		Galand et al.	03/27/1990	
		5,048,054		Eyuboglu et al.	09/10/1991	
		5,128,964		Mallory	07/07/1992	
		5,206,886		Bingham	04/27/1993	

FOREIGN PATENT DOCUMENTS							
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		Office ³	Number ⁴ Kind Code ² (if known)				
↓ /AE/			EP 0 473 465 B1		03/04/1992		
			EP 0 652 677 A2		05/10/1995		
			EP 0 703 685 A2		03/27/1996		
			EP 0 753 947 A1		01/15/1997		
			EP 0 762 701 A2		03/12/1997		

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials ¹	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ³
/AE/		John A. C. Bingham (May 1990), "Multicarrier Modulation For Data Transmission: An Idea Whose Time Has Come," <u>IEEE Communications Magazine</u> , pp. 5-14.	
/AE/		Shoham et al. (September 1988), "Efficient Bit Allocation for an Arbitrary Set of Quantizers," <u>IEEE Transactions on Acoustics, Speech and Signal Processing</u> , 36(9): 1445-1453.	

Examiner Signature	/Ahmed Elallam/	Date Considered	03/16/2007
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Application Number 10/635,449	
				New Divisional Application based on USSN: 10/189,212	
				Filing Date August 7, 2003	
				Inventor Name Richard W. Gross et al.	
				Group Art Unit 2664 (expected)	
Examiner Name Ahmed Elallam (expected)				Attorney Docket Number 081513-336	
Sheet	2	of	5		

U.S. PATENT DOCUMENTS						
Examiner Initials [*]	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
/AE/ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ /AE/		5,285,474		Chow et al.	02/08/1994	
		5,327,574		Monma et al.	07/05/1994	
		5,400,322		Hunt et al.	03/21/1995	
		5,428,790		Harper et al.	06/27/1995	
		5,452,288		Rahuel et al.	09/19/1995	
		5,479,447		Chow et al.	12/26/1995	
		5,497,398		Tzannes et al.	03/05/1996	
		5,521,906		Grube et al.	05/28/1996	
		5,533,008		Grube et al.	07/02/1996	
		5,555,244		Gupta et al.	09/10/1996	

FOREIGN PATENT DOCUMENTS						
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		Office ³	Number ⁴ Kind Code ² (if known)			
/AE/ ↓ ↓ ↓ ↓ /AE/			EP 0 812 087 A2		12/10/1997	
			EP 0 820 168 A2		01/21/1998	
			EP 0 840 474 A2		05/06/1998	
			EP 0 905 948 A2		03/31/1999	
			WO 86/07223		12/04/1986	

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/AE/		John M. Cioffi "A Multicarrier Primer," <u>Amati Communications Corporation and Stanford University</u> , pp.1-18. 1991				
/AE/		John A. C. Bingham (May 1996), "RFI Suppression in Multicarrier Transmission Systems," Amati Communications, <u>IEEE Communications Magazine</u> , pp. 1026-1030.				

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Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Complete if Known Application Number 10/635,449 Filing Date August 7, 2003 First Named Inventor Richard W. Gross et al. Group Art Unit 7002 (expected) Examiner Name Ahmed Elallam (expected) Attorney Docket Number 081513-336	
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U.S. PATENT DOCUMENTS						
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		Number	Kind Code ³ (if known)			
/AE/		5,596,604		Cioffi et al.	01/21/1997	
↓		5,598,435		Williams	01/28/1997	
		5,625,651		Cioffi	04/29/1997	
		5,636,246		Tzannes et al.	06/03/1997	
		5,644,573		Bingham et al.	07/01/1997	
		5,673,290		Cioffi	09/30/1997	
		5,731,706		Koeman et al.	03/24/1998	
		5,805,669		Bingel et al.	09/08/1998	
↓		5,812,599		Van Kerckhove	09/22/1998	
	/AE/	5,822,372		Emami	10/13/1998	

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		Office ²	Number ⁴ (if known)				
/AE/			WO 97/15131		04/24/1997		
/AE/			WO 98/10556		03/12/1998		
/AE/			WO 98/27665		06/25/1998		
/AE/			WO 98/57472		12/17/1998		
/AF/			WO 98/59476		12/30/1998		

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/AE/		Atungsiri et al. (June 1997), "Multirate Coding for Mobile Communications Link Adaptation," <u>IEEE Proc. Commun.</u> , 144(3):211-216.	
/AE/		Related Application USSN. 09/597,926 with a copy of Preliminary Amendment as filed. <i>Amendment filed on 05/15/06</i>	

Examiner Signature	/Ahmed Elallam/	Date Considered	03/16/2007
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		Application Number 10/635,449	New Divisional Application based on USSN: 10/189,212
		Filing Date August 7, 2003	
		First Named Inventor Richard W. Gross et al.	
		Group Art Unit 2662 (expected)	
		Examiner Name Ahmed Elallam (expected)	
Sheet 4	of 5	Attorney Docket Number 081513-336	

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		Number	Kind Code ² (if known)			
/AE/ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓		5,822,374		Levin	10/13/1998	
		5,832,387		Bae et al.	11/03/1998	
		5,852,633		Levin et al.	12/1998	
		5,903,608		Chun	05/1999	
		5,933,454		Cioffi	08/03/1999	
		5,960,036		Johnson et al.	09/1999	
		6,005,893		Hyll	12/1999	
		6,014,425		Bingel et al.	01/11/2000	
		6,028,486		Andre	02/22/2000	
	/AE/	6,052,411		Mueller et al.	04/18/2000	

FOREIGN PATENT DOCUMENTS							
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/AE/			WO 99/16224		09/09/1998		
/AE/			WO 99/18701		04/15/1999		
/AE/			JP 60-112357		06/18/1985		
/AE/			JP 62-502932		11/19/1987		
/AE/			JP 11-168515		06/22/1999		

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				Filing Date	August 7, 2003	
				First Named Inventor	Richard W. Gross et al.	
				Group Art Unit	2002 (expected)	
Examiner Name	Ahmed Elallam (expected)					
Attorney Docket Number	081513-336					
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/AE/		6,055,297		Terry	04/25/2000	
		6,061,392		Bremer et al.	05/09/2000	
		6,065,060		Liu et al.	04/2000	
		6,072,779		Tzannes et al.	06/06/2000	
		6,073,179		Liu et al.	06/06/2000	
		6,092,122		Liu et al.	07/18/2000	
		6,101,216		Henderson et al.	08/08/2000	
		6,128,335		Liu et al.	10/02/2000	
		6,144,696		Shively et al.	11/07/2000	
		6,161,203		Zuranski et al.	12/12/2000	
		6,219,378		Wu	04/17/2001	
/AE/		6,229,855		Takatori et al.	05/08/2001	

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